

At Issue: preventing infection

Q *At Issue* posed the following question to a panel of experts: "What is your infection prophylaxis regimen for anterior and posterior segment surgery?"

A: Reducing bacterial load

Noel A. Alpins, MD: The guiding principal for infection prophylaxis prior to anterior segment surgery is reduction of the bacterial load of organisms in the periocular environment. A combination of mechanical, chemical

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and bacteriological means is required to accomplish this. For small-incision cataract surgery, any necessary cleaning of the lids is performed 1 hour before surgery, at the time of instillation of mydriatics and chloramphenicol drops 0.5%.

Upon entering the operating room, the skin surrounding the eye is prepared using Betadine (povidone-iodine 10%;

Escalon Ophthalmics) with a little allowed to trickle into the cul-de-sac. Eyelids and eyelashes are covered by a plastic drape leaving only the ocular surface exposed. Sutures are occasionally used when the incision does not seal adequately when tested with fluorescein solution to avoid organisms entering the eye. Postoperatively, patients continue the topical application of Chlorsig 0.5% (chloramphenicol 0.5%, Sigma) four times daily for 7 days for conjunctival prophylaxis.

For laser refractive surgery, we use a similar regimen. Preoperatively, patients receive chloramphenicol 0.5% 30 minutes before surgery. For laser in situ keratomileusis (LASIK), the skin is cleaned with Betadine with particular attention paid to the eyelid margins, which are fully covered beneath a Tegaderm dressing. For photorefractive keratectomy (PRK), the surrounding skin is cleansed with isopropyl alcohol 70%, but without additional draping. At the completion of the procedure, further Chlorsig 0.5% is applied and is continued four times daily for 1 week postoperatively for LASIK and until 2 days after the epithelium has healed for PRK.

Chloramphenicol is readily available in Australia. It exhibits broad-spectrum antibacterial activity against gram-negative and gram-positive organisms. Should there be any concern, a second line of therapy is available employing the highly effective coverage of the fluoroquinolones. Restricting the use of fluoroquinolones for specific indicated conditions before or after surgery reduces the opportunity for the emergence of drug-resistant strains. In patients with a history of ocular herpes simplex infection, an antiviral ointment (Zovirax; Glaxo Wellcome) is added to the protocol preoperatively, but oral antivirals could be considered. Inactive perioral infection requires no prophylactic therapy. The evaluation of risk factors at the preoperative consultation and the treatment of any existing conditions allow the surgery to be conducted under optimal conditions and with minimum risk of infection.

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